North Coast Regional Seed Bank Network - Standard Operating Procedures

REVISED 2025 v5

STEP 1 — Preparation for Seed Collecting

These Steps of the Standard Operating Procedures of the North Coast Regional Seed Bank Network are to inform the activities of all members and associates collecting, processing and storing native seed within the network. The information in each Step is based on the Florabank Guidelines and the advice of experienced seed collectors.

Detailed guidance on seed collecting and processing should be gained by completing the free online Florabank Guideline modules available at: https://www.florabank.org.au/guidelines

TOPICS COVERED UNDER THIS STEP

1. Introduction: The North Coast Region Seed Bank Network
2. Planning ahead: where and when to collect seed
3. Checking permissions are gained to collect seed
4. Ethical and effective practice in seed collecting: the Code of Practice
5. CHECKLIST: Staying Safe while Collecting Seed – Health and Safety
6. CHECKLIST: Seed Collecting Equipment

FLORABANK GUIDELINES RELATED TO THIS STEP

Module 1: Introduction
https://www.florabank.org.au/guidelines?link=Module

Module 2: Working with Indigenous Australians: Seed Knowledge, Partnerships, Intellectual Property and Permissions
https://www.florabank.org.au/guidelines?link=Module2

Module 3: Approvals, Principles and Standards for Seed Collection
https://www.florabank.org.au/guidelines?link=Module3

Module 5: Seed Sourcing
https://www.florabank.org.au/guidelines?link=Module5

1. INTRODUCTION: The North Coast Regional Seed Bank Network

The North Coast Regional Seed Bank Network is a collaboration of organisations which have identified the need for a Seed Bank to aid in the collection, storage, testing, supply and exchange of native plant seeds within the NSW north coast region. Seed from an initial target list of 100 locally occurring species are to be collected for revegetation project needs in the region.

The North Coast Regional Seed Bank Network is governed under an MoU signed by the participating members:

- The Friends of the North Coast Regional Botanic Garden, Coffs Harbour (Seed Bank host)
- NSW North Coast Regional Landcare (Seed Bank Hubs)
- NSW Local Land Services

The aims of the North Coast Regional Seed Bank Network are:

- To supply locally sourced native seed to members of the North Coast Regional Seed Bank Program network for use in community-based projects.
- To complement regional strategies for Landcare, revegetation, catchment management, conservation, carbon sequestration, and biodiversity enhancement.
- To promote the local use of native seed and vegetation types by providing education and training programs.
- To operate for the benefit of the NSW North Coast Region community.

2. PLANNING AHEAD: WHERE AND WHEN TO COLLECT SEED

Planning ahead for where and when to collect seed is essential so as to identify potential collection sites and ensure permissions are gained. Most species have limited fruiting periods and planning ahead over a year will help to target the species coming into fruit for seed harvest.

2.1 Where to collect seed

The best and easiest way to get started to identify sites for seed collecting is to talk to other experienced collectors. Suitable collecting sites can be identified by combining local knowledge and any previous seed collecting records with information from databases such as the Atlas of Living Australia. This can be combined with online maps such as Six Maps which will show access routes, vegetation coverage and property types or categories which inform the permissions which may be required.

Collecting sites usually need some prior reconnaissance to check assess and the exact location of target plants, along with assessing what equipment may be needed and to monitor when the stand of targeted plants is likely to come into fruit.

Once field trip dates are confirmed, notify the relevant land owners/managers and organise access requirements, check in procedures and emergency contacts.

Defining a 'Collection Site' for the purpose of recording site location in the Field Data Sheet

Defining where a collection site begins and end for recording a seed lot can be complex due to overlapping or highly fragmented plant species populations. The boundaries or size of a collection site will vary on a case by case basis but should aim to capture a unique population. A new site should be defined where there is an obvious large break in connectivity between plant populations, or where there is a distinct environmental change (e.g. cliff, floodplain, riverbank or gully).

Collecting from small isolated populations or heavily fragmented populations should be avoided. Where this is not possible collecting from small isolated populations can be consolidated as a 'site' in a general defined area.

2.2 When to collect seed

For the flowering and fruiting periods of the 100+ plants targeted by the NSW North Coast Regional Seed Bank Network refer to the resource: Seed Collecting Guide Parts 1 and 2.

The usual fruiting period of the targeted species will inform initial forward planning over the year to make informed choices about the best use of collecting time and effort.

However, nature is variable so seed collecting times may be different from year to year due to different seasonal conditions, or the seed on individual plants across one stand/site may vary due to natural variations in micro-climates or genetic variations in plants of the same species.

For most plants there is an optimum time to collect covering weeks or sometimes months, and for some species/locations this may only be a few days. A period of hot weather may hasten seed ripening. For species which ripen and shed seeds within days some special techniques to capture released seeds may be required such as enclosing the fruit or seed pod with a mesh bag or old stocking to catch the seed as it is released.

Good record keeping of seed maturation periods in particular locations will assist future seed collecting efforts for that location.

[Insert photos: a site collection plan/map. Extract of the collecting guide – fruiting period]

3. CHECKING PERMISSIONS ARE GAINED TO COLLECT SEED

In many cases permission must be gained from the appropriate land manager prior to collecting seed. A list of authorities for different land tenures is provided below.

Table: Collection site and relevant authority

Tenure	Authority
Private property	Land Owner or Property Manager
Roadsides	Local Council
Crown Land	Managing Authority (e.g. Crown lands, Local Council, Lease)
Travelling stock routes	Local Land Services
State Forest	State Forests NSW
National Parks	NSW National Parks and Wildlife Service

- Permission request letters are sent to Local Council's on a 3 yearly cycle, with a response from each council requested.
- Permission to collect on travelling stock reserves is requested and granted annually.
- Permission to collect on private property is granted as required through a courtesy phone call with follow up email or text message.

[TO ADD: Scientific Licence to collect seed. The licence covers…key points for compliance.

4. ETHICAL AND EFFECTIVE PRACTICE IN SEED COLLECTING

THE CODE OF PRACTICE

Principle 1:

The seed collection practices are ecologically sustainable and comply with the limits or conditions in a seed collection licence and in regulations protecting rare and endangered plants.

- Know the conservation status and regulations of the target plant species
- Know and respect the cultural values of Traditional Custodians at collection sites
- Avoid trampling of under-story plants and seek to minimise how much plant material is collected with the seed.
- Avoid spreading weeds and plant disease by cleaning equipment and shoes.
- Avoid disturbing animal habitats including nesting sites or tree hollows

Principle 2:

For less impact on plants and to gain good genetic variation - collect fewer seeds from many plants rather than many seeds from a few plants.

- Collect from as many plants as possible at each site, aiming for 15-20 plants.
- Collect from stands or groups of plants. Avoid collecting from isolated plants
- Take less than 20% of the fruit from an individual plant
- Avoid collecting from plants which show signs of disease or insect attack
- Keep good records of seed collected including how many plants were collected from

5. CHECKLIST: STAYING SAFE WHILE SEED COLLECTING

Seed collection is a high risk activity, especially under tall trees and especially near roads. Each seed collecting expedition needs to begin with a safety briefing covering risks of weather, terrain, equipment use and methods, and the key ways to mitigate these risks.

General Approach and Group Equipment

- A copy of your seed collecting plan and map left with someone if working in remote areas.
- Check weather conditions/forecast suitable for safe collecting (see below)
- Having seed collecting companions – there is more safety, and fun, in numbers!
- Knowing your limits within your training – especially in the use of higher risk methods involving cutting equipment, or using ladders or climbing equipment.
- **First aid kit** and someone with up to date training in First Aid.
- **Sunscreen, insect repellent** + Lyclear and/or a tick removal kit

Essential Personal Gear

- **Mobile phone** (+ spare battery pack). Useful also for taking photos of plants.
  Load the 'Emergency Plus' app to your phone which will provide GPS coordinates (for collecting location) and a quick and reliable way to call emergency services if needed.
- **Water bottle**

Personal Protection Equipment (PPE)

- Long sleeved shirts, pants and footwear suitable for rugged conditions
- A high vis vest should be worn if collecting by road sides
- Hard hat if harvesting from tall plants by cutting/pulling down fruit
- Wide brim hat
- Sturdy gardening gloves
- Safety goggles or wrap around sunglasses – to protect from eye injury
- Dust mask – to protect from irritants in some fruits/seed pods

Work Health and Safety

1. Personnel undertaking seed collection and processing must read, understand and sign an appropriate Safe Work Method Statements (SWMS) prior to undertaking work
2. All new collectors must receive instruction in safe collection methods and tool operation and be supervised by experienced volunteers/staff until able to demonstrate competency in safe equipment operation and procedures.
3. All incidents/ injuries and near misses must be reported to an identified supervisor or authority within 24 hours of the event using an Incident Report form.
4. Some seeds contain irritants which may impact on skin and/or breathing for some people (e.g. *Acacia sp*. and *Dodonaea sp*.) If collecting causes a physical reaction stop and follow appropriate first aid as required, including to wash the affected area with clean water.

Weather conditions and safe seed collecting

1. On very windy or hot days, and especially when the fire danger rating is high, seed collecting should be postponed due to the more dangerous conditions for tree limb fall, and fire.

2. On wet days seed collecting should be postponed due to the more dangerous collecting conditions, as well as the higher risk of mould developing in the collected seed.
3. On very warm days seed collecting should start in the early morning and finish by the middle of the day to avoid heat exposure.

6. CHECKLIST: SEED COLLECTING EQUIPMENT

Essential record keeping and other equipment

- A **Field Data Sheet** booklet to record data: provides a seed lot collection number
  Field Data Sheet booklets are available from the regional Landcare hubs in the network.
- **Tags/Labels** to write the seed lot collection number from the Field Data Sheet, plus species name, location and date collected on paper bags or tags for seed lot containers.
- **Marker pens (for labels/tags)** and pens
- **A seed collecting plan and map** with a copy of permissions and/or licence to collect seed with land manager/owner contacts.
- **Mobile phone** and/or camera to take photos of the plant and to record location coordinates (or a GPS unit if working in remote areas outside of mobile phone range)

To store collected fruit/seed pods/seed:

- A waist mounted calico bag or fruit pickers apron (for hands free collecting) and/or
- Plastic tubs, buckets or large calico bags
- Tarps and/or 2x2m calico drop sheets for collecting under trees/shrubs
- Sturdy paper bags or small calico bags for storing/labelling small seed lots

Tools to cut stems with seed bearing fruit:

- Secateurs, long-handled loppers
- A waist belt for storing small hand tools when not in use
- Telescopic pole pruner with a hook, and/or saw attachment

Other useful equipment:

- Binoculars to inspect fruit/seedpods/seed on higher branches
- Small bottle of bleach or antiseptic, and wiper, to clean tools in the field
- Sharp knife or scalpel for doing a cut test on seed viability
- Hand lens (x10 magnification) to aid in plant IDs and seed inspection.
- Plant identification books, or identification profiles for the targeted species
- Marking tape – to record an access route or location of a collection site
- Throw cord/rope: 25m of 5mm nylon cord, or rope, with a lead fishing weight
- Flexible saw with cord for cutting at height (often used with a throw rope)
- Ladder with ladder securing ropes, and/or climbing equipment (requires training)
- A3 Notebook – for field planning and for plant voucher specimens if needed

[PHOTOS: Pole pruner head with hook. Long handled loppers.]